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MANAGING OPERATIONAL INTELLIGENCE OVERLOAD:

GUIDELINES FOR AVOIDING DECISION PARALYSIS

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Operations Department.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War college or the Department of the Navy.

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This paper presents guidelines to help the operational commander reduce the risk of intelligence overload which causes delays in making decisions. A brief review of history shoes that technological advancements have increased the reliability and usefulness of intelligence. But technology has not replaced the human factor in intelligence work and command. In fact, technology is not a panacea. Instead, developments may actually contribute to intelligence overload. Additionally, certain factors in today's military planning and execution environment increase the risk of overload. Therefore, practical, management-oriented guidelines are presented which highlight the human factor and emphasize command, not dependence on technology.

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MANAGING OPERATIONAL INTELLIGENCE OVERLOAD: GUIDELINES FOR AVOIDING DECISION PARALYSIS

CHAPTER I

INTRODUCTION

As the planning and execution of military operations becomes more sophisticated, the development, value and uses of intelligence advances. Today, with technological improvements continuing in the information acquisition area, demands on producing intelligence have increased. Complexities of the warfare environment have also multiplied the necessity for intelligence.

Advanced technology and increased data, while no doubt beneficial, have produced some unfortunate results. Collection assets improve in number and capability but processing and disseminating information have not kept pace.[1] Additionally, the exaggerated belief that technology is a panacea aggravates the information management problem.[2] Thus, efforts to provide more and better support to the commander, have actually led to production and transmission of often confusing and overwhelming amounts of intelligence. The potential danger for commanders is clear: intelligence overload resulting in decision paralysis.

The purpose of this paper is to present guidelines for the operational commander's use in managing intelligence to avoid decision delays. Literature on intelligence agencies,

methodologies, processes and platforms is plentiful. But as technology increases, guidance to help the operational commander manage his intelligence has remained scant.

This paper takes a practical approach on the issue. It begins with a short overview of the historical changes in intelligence. Then, the scope of the problem is addressed in relation to today's operational warfare environment. Finally, guidelines are presented.

Before beginning, a few definitions are required. First, is the definition of operational intelligence. While this aspect of intelligence continues to receive attention, the purpose of this paper is not to provide a final definition. Therefore, the following definition by Michael Handel is used:

> ... operational intelligence is essentially up-to-date information about the enemy that has been processed and distilled by experts from the mass of raw data received; and in order for the collection and analysis of intelligence to be useful in support of military operations, these experts must, in turn, be kept well informed of the latest developments concerning their *own* forces' operations and plans.[3]

Second, overload must be defined. There are two facets to overload. The first concerns amount. If the commander receives excessive intelligence to the degree that he cannot determine the essential from the trivial, overload results. This ultimately leads to delayed decisions until the required intelligence is extracted.

The second facet has to do with clarity. Regardless of amount, if intelligence cannot be understood, then the

commander is overloaded with unanswered questions and worry. Delays in making decisions will persist until the commander receives intelligence he can understand and then apply within the decision cycle. Lack of clarity can be caused by many factors, including too much intelligence, poor communication and incorrect analysis of information.

Based on the above discussion, operational intelligence overload is defined as excessive and/or unclear information on the enemy that in the amount and form inhibit decision making. Undoubtedly, each commander will have different tolerances for the amount and clarity of intelligence he can manage before counterproductive effects are realized. Thus, the guidelines presented in this paper should be employed individually by each commander to the degree desired in order to maximize their benefits.

CHAPTER II

BACKGROUND

Evolving Intelligence

Warfare historians and military leaders would no doubt be able to distinguish differences between conducting war centuries, or even decades, ago and today. Many aspects of warfare have changed including the capabilities, sophistication and complexity of the intelligence process. But it would be a miscalculation to ignore the relevance of past experience. While intelligence capability and reliability have dramatically improved, problems of the past still exist. Above all, human nature hasn't changed.

As early as the Fourth Century, B.C., Sun Tzu was writing about estimates that should consider five fundamental factors which included terrain and weather.[1] He further devoted three additional chapters to intelligence considerations, not to mention numerous references on the importance of deception and knowing the enemy.[2] Sun Tzu believed intelligence was valuable, though during this period it was simple and often unreliable. But despite his intelligence focus, Sun Tzu also emphasized successful warfare that depended on the commander and his ability to plan operations and lead warriors. The human element was not replaced by information.

In general, Clausewitz's views of intelligence were negative. He was skeptical of its reliability and value

saying, "Many intelligence reports in war are contradictory; even more are false, and most are uncertain..."[3] Instead of providing a measurable advantage, intelligence generated more battlefield friction for the commander to consider during operations.[4] For Clausewitz, the commander's "genius" was more essential than intelligence.

Technology has overcome the rudimentary intelligence problems of earlier time. Usefulness and reliability are greater, but technology has not eliminated all procedural problems inherent in intelligence work. In fact, technology is not a panacea. Despite the many innovations afforded by technology, "In the final analysis, intelligence problems are human -- problems of perception, subjectivity, and wishful thinking -- and thus are not likely to disappear no matter how much the technological means of intelligence improve."[5]

Pre-modern and modern intelligence are briefly compared in Table 1. Intelligence used to be simple and unreliable. The changes have been technologically substantial and overall have improved intelligence capability and reliability. But intelligence management problems generated by technology now challenge the commander. Knowing technology is not a panacea, the commander must not neglect to apply human interpretation and problem solving which intelligence, no matter how revealing, simply cannot replace. Therefore, the wisdom of Sun Tzu and Clasusewitz, with respect to intelligence, remains very relevant today: human nature cannot be substituted for intelligence, despite its technological improvements.

Table I

Pre-Modern and Modern Intelligence Compared

	PRE MODERN INTELLIGENCE	MODERN INTELLIGENCE
SOURCES OF INFORMATION	ALMOST EXCLUSOVELY HUMINT. (SPIES, DIPLOMATS)	SIGINT TECHINT (TELEGRAPH, TELEPHONE, RADIO, AIR PHOTOGRAPHY, NEWSPAPERS) ANALYSIS OF OPEN SOURCES HUMINT
RELIABILITY	RELATIVELY LOW; DIFFICULT TO VERIFY; PRONE TO BE USED FOR DECEPTION.	RELATIVELY HIGH; CAN BE VERIFIED "OBJECTIVELY"; CAN BE COOROBORATED BY DIFFERENT TYPES OF INTELLIGENCE
AVAILABILITY	SLOW; OFTEN TOO LATE TO BE RELEVANT; OVERTAKEN BY EVENTS.	QUICK; CAN BE AVAILABLE IN REAL TIME WHEN NEEDED.
DEMAND FOR AND IMPORTANCE ASSIGNED TO INTELLIGENCE	IN UGHT OF THE ABOVE PROBLEMS— DEMAND IS MODERATE; IMPORTANT BUT NOT PERCEIVED AS CRITICAL; IN GENERAL A PESSIMISITIC & NEGATIVE EVALUATION OF INTELLIGENCE.	HIGH TO VERY HIGH DEMAND; IMPORTANT IN BOTH PEACE AND WAR; SEEN AS CRITICAL FOR SURVIVAL AND SUCCESS; IN GENERAL A POSITIVE & OPTIMISITC EVALUATION OF INTELLIGENCE.
ORGANIZATION	PRIMARILY AD HOC; NO PERMANENT ORGANIZATION; NOT A SPECIAL PROFESSION; A SMALL NUMBER OF PARTICIPANTS.	LARGE PROFESSIONAL, PERMANENT ORGANIZATIONS; COMPLEX COLLECTIONS; ANALYSIS COORDINATION ACTIVITIES.

Source: Michael I. Handel

The Planning and Execution Environment

The warfare environment directly shapes how the commander should manage information and intelligence. To illustrate this, four aspects of the warfare environment will be discussed: the unknown threat; the operational continuum; coalition warfare; and force reductions. Each factor affects the amount and type of intelligence the commander receives. The conditions produced by these factors have the potential to create overload problems if not carefully considered.

Unknown Threat

The demise of the prevailing Soviet threat has created an intelligence vacuum. Instead of focusing a majority of intelligence assets on a single foe, the number of potential adversaries has grown, but with less clarity than the old Soviet threat offered, thus increasing the demands on intelligence.[6] Meeting these requirements may reduce analysts' depth of knowledge. When crisis occurs, analysts will have to absorb an abundance of information to catch up. The operational commander may initially be overloaded, receiving too much intelligence too fast. Or, analysts may become burdened with excess information and produce vague products, overloading the commander with unclear intelligence.

The Operational Continuum

Mission requirements for military forces continue to expand and intelligence must be prepared to support these

diverse operations where requirements will greatly vary. For instance, as one military analyst has observed, the intelligence role increases in type and amount in low intensity conflict environments.[7] Therefore, intelligence processes must adapt. Inflexibility may result in the commander receiving unclear intelligence because improper, unresponsive collection and analysis were applied. The lack of clarity may be sufficient enough to cause overload.

Coalition Warfare

In the coalition environment, analysts and the commander can expect to experience a variety of difficulties. Coalition partners will probably tend to be greater demanders of than contributors to intelligence because of superior U.S. technology.[8] This further reduces the availability of intelligence resources. When the commander needs specific information, assets may be unavailable, committed to coalition forces. As intelligence scrambles to meet the request, it may not have sufficient time to properly filter the information or may give the commander incomplete intelligence. Overload results from lack of clear, unprocessed information.

Force Reductions

As force structure declines, intelligence becomes a more important force multiplier. The commander may tend to overuse and overconsume intelligence, creating his own overload predicament. Excessive requests can also overload the

intelligence staff, rendering it incapable of effectively analyzing information. In turn, the commander gets too much unclear intelligence which hinders decision making.

Scope of the Problem

The problem of intelligence overload is a fact for the commander today and in the future. An operational planner on the USCENTCOM (Central Command) staff during Operation Desert Shield/Storm noted, "Though techniques such as expert systems were used to assist in the analysis of raw data for many wartime planning functions, there was still too much to absorb by commander and staffs during the fast-paced war."[9]

With future acquisition efforts directed toward even greater technological developments such as decision support systems, two problems can result. One, there is a continued attempt to replace human nature with technology. Two, the overload problem exponentially increases as technology increases. The commander becomes too dependent on technology, waiting for that last bit of intelligence in hopes it provides definitive information on which to base a decision. But delaying decisions for want of more intelligence precipitates overload. Therefore, commanders must not exclusively rely on systems which cannot replace human nature and which may contribute to intelligence overload. It's time to recognize the value of leadership and information management basics in the technology age.

CHAPTER III

GUIDELINES FOR THE COMMANDER

Eight guidelines are presented to help the operational commander avoid intelligence overload and decision paralysis. They provide a common sense approach. Because intelligence technology is so advanced, commanders are often in awe of its high-tech capacity to the degree of acceptance without challenge, ultimately failing to apply the same sound leadership and management principles they apply to other decisions. Therefore, the guidelines are based on the human element and not technology.

Guideline One: Provide Intelligence with Direction and Tasking

A common pitfall is assuming the intelligence officer knows what the commander wants, in what order, and when. The commander cannot afford to allow intelligence collection and analysis to proceed without setting direction and priorities. Therefore, he must address two issues: mission understanding and identifying priority intelligence requirements (PIR).

First, the commander must ensure the mission and objectives are appreciated and understood. Though intelligence officers comprehend the necessity to understand, too frequently they may not. Misunderstanding the mission may result in unnecessary collection, futile analysis efforts

and irrelevant intelligence that does not support mission requirements and ultimately inhibits decision making. Overload ensues from lack of clarity due to a disconnect between intelligence and the mission.

Mission understanding is also a continuous process. As the commander's mission, estimate of the situation and objectives evolve in dynamic situations, the J2 reflects these changes in the concept of intelligence operations.[1] Failure to ensure continuous mission understanding leads to untimely, unclear intelligence.

Second, the commander must identify PIRs to maximize assets, reduce redundancy, prevent ineffective collection and limit overload. PIRs generate integrative collection efforts that respond directly to requirements. Without PIRs, analysts can overconsume information to support assumed requirements. When the intelligence is presented, the commander becomes overwhelmed by its excess. And, if that intelligence did not address his concerns, the commander may require even more.

But the commander must also ask the right questions in order to receive relevant intelligence, and decrease the risk of making erroneous decisions.[2] "Only that information which directly contributes to a critical decision by the commander should be tasked to be retrieved. This type of self-discipline by commanders will allow the staff time to continue its routine coordination, integration and synchronization functions in support of the current and future operations."[3]

Guideline Two: Require Simple, Clear, Concise Intelligence

Besides being timely, relevant and accurate, intelligence should be simple, clear and concise. If beset by wordiness, complex structure and jargon, intelligence is not understood and is unusable. The commander will sift through products to ascertain meaning, ultimately becoming overloaded by lack of clarity. This wastes time and inhibits decision-making.

Guideline Three: Demand Probabilities and Accept Ambiguity

As much as intelligence can do, it still cannot know everything so uncertainty and friction will remain.[4] Ideally, information should be distilled and clearly presented to communicate probabilities. However, this accomplishment is not always possible, so the commander must accept ambiguity.

Probabilities are really what the commander needs, not definitive "yes and no" answers or every available option. Formulating a definitive answer may require continuous collection and analysis which is unrealistic and beyond the capability of even the best intelligence networks and platforms. Though wargaming techniques are often used and prove valuable in assigning probability, the process can also become counterproductive. It may lead analysts to shirk their responsibility, deluging the commander with every possibility and excessive intelligence.[5]

Requiring probabilities places responsibility for properly filtering information on analysts, so the commander

gets only what is required for a decision. Probability estimates reduce unnecessary information and can provide clear, focused intelligence.

There may be instances when probability cannot be determined. As these situations arise, intelligence must be forthcoming with precisely that answer. The commander should not accept hedging, stalling and voluminous intelligence that doesn't ultimately result in probabilities. This creates overload and delays decisions. Thus, the commander must accept ambiguity when probabilities are not practical and analysts must not mask ambiguity with excessive intelligence.

When probabilities are not obtainable, the commander and intelligence officer must rule out influences of too much, too little or incorrect intelligence. First, review PIRs and collected information to help determine if the intelligence corresponds to the requirements. Then review the analysis process to ensure sufficient information was available. Lastly, repeat the analysis to eliminate any excess, unneeded intelligence. If probability still cannot be determined then the commander may have to accept the ambiguity to avoid overload.

Guideline Four: Ensure Continuous Communication with Intelligence for Feedback and Responsiveness

The commander's relationship with intelligence should ensure for constant communication and feedback. Though this

is rather obvious it is not easy to achieve. There are numerous reasons why the commander may not maintain continuous communication, but sufficient explanation is beyond the scope of this paper.[6]

What's critical to understand is that intelligence is a continuous process that relies on updated requirements to produce responsive intelligence. If the commander provides initial focus and PIR, but then ignores the communication and feedback loop, the risk of intelligence failure and overload increases. When the commander instantly wants specific information, the intelligence process may not have remained current and must catch-up. Thus, intelligence will be either untimely or improperly distilled. If untimely, it is of little use in reducing uncertainty and assisting decision making. If improperly distilled, the commander is overloaded with an abundance of information that is void of simplicity and clarity.

Maintaining a relationship with open communication and constant feedback reduces uncertainty and overload. It facilitates receiving timely intelligence that is properly analyzed and presented in a clear, understandable and usable format.

Guideline Five: Integrate Intelligence and Operations

One of the more controversial areas of intelligence concerns its relationship with "operations." Traditionally

operations has primacy over intelligence, though this is not necessarily a correct or even efficient relationship. Because intelligence is a supportive element should not imply its role is secondary or unimportant.[7] The integration process can be difficult but its necessary for decreasing overload.

Consider the following scenario. The operations staff have a self-serving, prejudicial interest in their plan. They may dismiss intelligence that doesn't support it and request additional collection and analysis to support what may actually be an ill-conceived plan. When briefing the plan, the intelligence officer may overload the commander with excessive conflicting, uncorroborated intelligence in an attempt to discredit the operators and the plan.

Besides the above, other conditions can cause overload. Operations and intelligence may not be communicating and coordinating enough. In this instance, intelligence production is not based on current operations so it lacks clarity because of a disconnect with mission changes.

The emergence of overload because of poor or absent integration must be avoided. The commander should consider employing the following. First, show due recognition for the vital role of intelligence and relay the message to operators that intelligence will not easily be dismissed. Second, the commander should bring intelligence into his confidence. If the intelligence officer has access, problems will be precluded by open discussion before detrimental action occurs. Third, require operations and intelligence to closely

coordinate their efforts throughout plan development and during execution. Enforce this by requiring concurrent updates from both staffs to gauge their level of coordination. Fourth, educate operations and intelligence staffs on the essential need to cooperate and clearly outline expectations.

Guideline Six: Be Educated in Intelligence

The commander must be smart about all aspects of intelligence to assist reducing overload. As a minimum, he should have knowledge of the following. First, he should understand intelligence capabilities and limits. Technology has progressed in the area of providing objective, quantifiable intelligence. Such thing as enemy order of battle, fortifications and dispc ition, and number of troops are readily available. The technology is so advanced that during Operation Desert Shield/Storm, the Joint Imagery Production Complex under the J2 provided actual photographs depicting the entire disposition of Iraqi forces, their defenses and the terrain.[8]

The limits of intelligence concern human nature. Estimates can be infused with the personalities, experiences, biases and often hidden agendas of analysts.[9] The result is that even the best collection, analysis and interpretation is constrained and imperfect.[10]

Second, the commander should have working knowledge of intelligence resources and what they provide. Third, he

should understand the differences between intelligence at the three levels of war. "What's imperative and useful on the tactical level may actually be dysfunctional on the operational level."[11]

Insufficient knowledge in the above areas will not only make intelligence less valuable, but it leads to overload. Consider the commander who doesn't understand intelligence capabilities and systems. He asks for incorrect information and becomes overloaded with unclear intelligence. And there's the commander who tries to overcompensate for his lack of knowledge by requesting excessive intelligence, precipitating the overload condition.

Taking the time to expand knowledge now is critical because it's too late once an operation begins. The commander should consider doing the following. One, get some books and current journals on intelligence procedures and collection systems. Two, ask the intelligence officer for training and some fact sheets on what operational intelligence is and its relationship to your available resources. Three, if there's a course on operational intelligence for commanders get a quota. Fourth, observe how intelligence at the operational level works to learn the collection and analysis process first-hand. Fifth, talk to other people in the intelligence community, particularly at the national level because there will be considerable intelligence interface between operational and national levels. Finally, remember there is no suitable

replacement for knowledge. Being an operational commander simply does not infer intelligence expertise.

Guideline Seven: Using Criteria for Decisions

To help avoid delays in making decisions, the commander should develop criteria for action in campaign plan phases. This doesn't mean it should be rigidly based on time, events, combat ratios or any other single element. Criteria should be flexible and realistic.

As an example, General Schwarzkopf, Commander in Chief for Operation Desert Shield/Storm, used percentages of attrited Iraqi forces as one criteria for initiating the ground attack.[12] Intelligence played a vital role by providing Schwarzkopf with battle damage assessment to determine the percentages.

Guideline Eight: Be A Leader and Make A Decision

Leadership is one of the most critical elements in decision making, particularly in uncertain, high-risk warfare environments. According to Army Field Manual (FM) 22-100, "Leadership is the process of influencing others to accomplish the mission by providing purpose, direction and motivation."[13] It may be Sun Tzu's general who cherishes his troops and treats them as sons.[14] Or perhaps it's Clausewitz's "genius" who possesses "... *a harmonious combination of elements* in

which one or the other may predominate, but none may be in conflict with the rest."[15] [Author's emphasis]

It is the unknown quantity but the commander must always rely on his leadership skills and abilities to help make decisions. It's easy to ignore or abandon this factor when overwhelmed with intelligence and other concerns. Leadership, though, is precisely the element that balances all the competing forces which complicate decisions. Intelligence should not make decisions. The bottom line is this: The commander must rely on leadership and human nature. He must decide and not delay.

CHAPTER IV

CONCLUSIONS

Summary

Technology has made great strides toward increasing the reliability and usefulness of intelligence. But these advances have not eliminated the problems inherent in intelligence work. In the final analysis, technology has not replaced human nature. Instead, it has sometimes contributed to intelligence overload. Further compounding the overload problem is today's operational planning and execution environment. This all suggests the commander will have to rely on the human element to avoid potential overload and decision delays.

To help the operational commander, eight guidelines were presented and discussed. They are common sense based, management oriented and highlight the criticality of leadership.

Recommendations

As we continue developing more highly sophisticated and complex military support and weapon systems, the problem of managing intelligence will remain and perhaps increase. Therefore, the following recommendations are made. First, educating today's and future operational level commanders on intelligence overload and potential decision paralysis must

improve. This should be done in all senior service schools to make leaders aware of the problem and facilitate solutions.

Second, the overload problem is most likely permeating other levels and areas of command and staff where different and unique factors are affecting decision making. Further studies should be initiated to determine if similar concerns exist in other areas, such as logistics where dependence on automated systems is great.

Third, the intelligence community should educate intelligence professionals about the overload problem. With improved education and training, intelligence officers will be able to assist by training and educating the commander if necessary and by implementing procedures to detect and reduce overload.

Fourth, this problem must be studied further and in greater depth. This will help generate more literature that offers practical advice which commanders need if that are expected to effectively manage increasing amounts of intelligence.

NOTES

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8. Robert H. Clegg, "Imagery Intelligence at Echelons Above Corps," *Military Intelligence*, April-June 1992, p. 22.

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